

13th Annual Biological Sciences Symposium

Associated with the 2021 Petersheim Academic Exposition

Thursday April 29, 2021

BioSymposium Book of Abstracts 2021



2021 Keynote Lecture

Differential Clinical Impacts of Oxidative Stress and Nitrosative Stress: Therapeutic Implication

Professor Samuel H.H. Chan, Ph.D.

Institute for Translational Research in Biomedicine Chan Gung Memorial Hospital

[View the 2021 Keynote Lecture](#)

Presenters

Graduate Research

- 1. 3:40-3:50 & 4:30-4:40 Zachary Cropley and Daniel Nichols: YEAST 2 HYBRID ANALYSIS OF MCV HOST IMMUNE EVASION PROTEINS**
- 2. 3:50-4:00 & 4:40-4:50 Alexis Hernandez and Jessica Cottrell: CLINICALLY RELEVANT DOSAGE OF VANCOMYCIN DOES NOT NEGATIVELY IMPACT PERIOSTEUM DERIVED OSTEOBLAST PRECURSOR CELLULAR FUNCTIONS**
- 3. 4:00-4:10 & 4:50-5:00 Shiyu Ma and Heping Zhou: THE EFFECT OF PALMITATE ON THE EXPRESSION OF INFLAMMATORY CYTOKINES IN BV2 CELLS**
- 4. 4:10-4:20 & 5:00-5:10 Andrew Pulgiese, Allan Blake, and Jessica Cottrell: EFFECTS OF SODIUM ORTHOVANADATE ON LPS-INDUCED SENESCENT RAW264.7 CELLS**
- 5. 4:20-4:30 & 5:10-5:20 Brian T. Reiss and Daniel Nichols: CHARACTERIZATION OF THE MOLLUSCUM CONTAGIOSUM VIRUS MC160 PROTEIN INHIBITION OF MAVS**

6. 3:40-3:50 & 4:30-4:40 Ayuni Yussof and Tinchun Chu: MOLECULAR DOCKING STUDY OF THEAFLAVIN ANTI-GERMINATION MECHANISM ON BACILLUS SPP.

Undergraduate Research

7. 3:50-4:00 & 4:40-4:50 Margot Brown, Matthew Sunda, Isabella Somera, Zena M. Abukanan, Joseph Badillo, Suzanne Quartuccio Gantar INDUCTION OF APOPTOSIS IN GLIOBLASTOMA CELLS THROUGH ACTIVATION OF PPAR_γ BY BIS INDOLYL METHANE COMPOUNDS

8. 4:00-4:10 & 4:50-5:00 Zachary DiSanza, Adrian Bernal, and Suzanne Quartuccio Gantar: THE ONCOGENIC ROLE OF AURKC IN MITOTIC CELLS

9. 3:40-3:50 & 4:30-4:40 Caitlin Gartley and Ruby Pasupuleti: CHARACTERIZATION OF INSULIN MIMETIC EFFECTS ON GENE EXPRESSION DURING THE ATDC₅ CELL LINE

10. 4:20-4:30 & 5:10-5:20 Karina Helou, Mackenzie McCann, Joshua Novello, Zena M. Abukanan, Joseph Badillo, Suzanne Quartuccio Gantar: ANTI-CANCEROUS BIS INDOLYL METHANE (BIM) COMPOUNDS PREVENT PROLIFERATION OF GLIOBLASTOMA CELLS

11. 3:40-3:50 & 4:30-4:50 Christie Joshi, Viren Jadeja, Heping Zhou: MECHANISMS OF OBESITY AUGMENTED COVID-19 PATHOLOGIES

12. 3:50-4:00 & 4:40-4:50 Myeong Gil Jun and Heping Zhou: MECHANISMS OF OBESITY-ASSOCIATED NONALCOHOLIC FATTY LIVER DISEASE BY META-ANALYSIS

13. 4:00-4:10 & 4:50-5:00 Jillian Lazzara: LIFETIME ACCUMULATION OF RACISM-RELATED STRESS IN AFRICAN AMERICAN WOMEN AND ITS EFFECT ON ADVERSE BIRTH OUTCOMES

14. 4:10-4:20 & 5:00-5:10 Michael Lutz, Albert Dimaculangan Jr., Christian Martinez, Danielle Maragh, and Tinchun Chu: THE EFFECTS OF NICKEL CHLORIDE ON CYANOBACTERIUM ANABAENA SPP.

15. 4:20-4:30 & 5:10-5:20 Paige Murray and Heping Zhou: COVID-19 MODULATION OF NEUROINFLAMMATION IN MAJOR DEPRESSIVE DISORDER

16. 3:40-3:50 & 4:30-4:40 Tatiana Rengifo and Sulie Chang: USING IPA TO STUDY THE EFFECTS OF EXCESS ALCOHOL CONSUMPTION ON CARDIAC CONDITIONS

Next-Generation Omics Research

- 17. 4:00-4:10 & 4:50-5:00** Sabrina Lopez and Tinchun Chu: A META-ANALYSIS OF THE EFFECTS OF EGCG ON BACILLUS SPP.
- 18. 4:10-4:20 & 5:00-5:10** Danielle L. Maragh and Tinchun Chu: EXPLORING THE ASSOCIATION BETWEEN CHRONIC ANATOXIN-A EXPOSURE AND SPORADIC AMYOTROPHIC LATERAL SCLEROSIS (ALS)
- 19. 4:20-4:30 & 5:10-5:20** Angelo Montero and Tinchun Chu: IDENTIFYING TLR-3 ACTIVATING MOLECULES AS NEW ADDITIONAL ACTIVE INGREDIENTS FOR THE FLU VACCINE
- 20. 4:40-4:50 & 5:10-5:20** Lorena Pena and Tinchun Chu: GENES INVOLVED IN METASTATIC GASTRIC ADENOCARCINOMA AND THE NTRK2 EXPRESSION IN DIFFERENT CANCER TYPES
- 21. 3:50-4:00 & 4:40-4:50** Andrew Pugliese and Tinchun Chu: CANCER REOCCURRENCE: THE CONNECTION BETWEEN CELLULAR SENESENCE AND CHEMOTHERAPEUTICS
- 22. 4:00-4:10 & 4:50-5:00** Elizabeth Wong and Tinchun Chu: REGULATION OF ANTIMICROBIAL PEPTIDES HAMP, CAMP, AND ALPHA-DEFENSINS TO COMBAT ANTIMICROBIAL RESISTANCE

Senior Seminar Capstone Projects

- 23. 4:10-4:20 & 5:00-5:10** Ashley Aiello and Sulie Chang: META-ANALYSIS ON THE INVOLVEMENT OF STAT1 IN CH25H INHIBITION OF SARS-CoV-2 INVASION INTO THE HOST CELLS
- 24. 4:20-4:30 & 5:10-5:20** Sriprasanna Bandarupalli and Sulie L. Chang: EFFECTS OF HYPOTHYROIDISM AND HYPERTHYROIDISM ON COVID-19
- 25. 3:40-3:50 & 4:30-4:40** Thanelie Bien-Aime and Sulie L. Chang: META-ANALYSIS OF COVID 19 MODULATION OF ACE 2 LEADING TO SARCOPENIA
- 26. 3:50-4:00 & 4:40-4:50** Danielle Brinckman and Danielle Camilleri: ANTERIOR CRUCIATE LIGAMENT SURGICAL GRAFT OPTIONS TO OPTIMIZE RECOVERY
- 27. 4:00-4:10 & 4:50-5:00** Ryan C. Camacho, Tanvi P. Patel, Heping Zhou and Sulie L. Chang: NETWORK META-ANALYSIS OF COVID-19 MODULATION OF AMYLOID PRECURSOR PROTEIN IN BRAIN ENDOTHELIUM
- 28. 4:10-4:20 & 5:00-5:10** Alyssa Caradonna, Sedra Alabed, Tanvi Patel, Matea Toleska and Sulie Chang: NETWORK META-ANALYSIS OF COVID-19 MODULATION OF ACE-2 LEADING TO ALZHEIMER'S DISEASE VIA SIMILARITIES IN INFLAMMATORY AND PLAQUE FORMATION PATHWAYS

29. 4:20-4:30 & 5:10-5:20 Antoinette Carman and Sulie L. Chang: META-ANALYSIS OF THE MECHANISMS UNERLYING THE MILD PATHOLOGY OF COVID-19 OF CYSTIC FIBROSIS PATIENTS
30. 3:40-3:50 & 4:30-4:40Cristina Casimiro: SUSTENTACULAR CELLS INVOLVEMENT IN SARS-COV-2 VIRUS ENTRY, HYOSMIA & ANOSMIA
31. 3:50-4:00 & 4:40-4:50 Divya Dadi and Sulie L. Chang: MODULATION OF CHLOROQUINE ON THE HEPATIC SYSTEM DUE TO COVID-19 TREATMENTS
32. 4:00-4:10 & 4:50-5:00 Ashley Diekemper and Christian Logan: CRISPR-CAS GENE EDITING SYSTEMS AND POTENTIAL THERAPEUTIC USES
33. 4:10-4:20 & 5:00-5:10 Alaina Dorlon and Sulie L. Chang: THE ANALYSIS OF THE SARS2 COVID-19 MRNA VACCINE AND ITS POTENTIAL EFFECTS ON FEMALE FERTILITY
34. 4:20-4:30 & 5:10-5:20 Charlene Fermin and Ricardo Munoz: COMPARING THE GENDER DIFFERENCES IN MELANOMA SURVIVAL, OUTCOMES, DEVELOPMENT, RISK FACTORS, AND PROGRESSION
35. 3:40-3:50 & 4:30-4:40 Victoria Fox and Sulie L. Chang: NETWORK META-ANALYSIS OF SARS-COV-2 INFECTION CAUSING MYOCARDITIS
36. 3:50-4:00 & 4:40-4:50Anna Furman and Sulie L. Chang: META-ANALYSIS OF GENETIC DELETION IN CAV 3 GENE AND CREATINE KINASE IN ITS EFFECT ON MORTALITY RATE IN COVID-19 INFECTED PATIENTS
37. 4:00-4:10 & 4:50-5:00 Dominick Gamarro and Kaitlyn Vega: EFFICACY OF COVID-19 VACCINES BASED ON VACCINE TYPE AND ADMINISTRATION SCHEDULE
38. 4:10-4:20 & 5:00-5:10 Caitlin Gartley and Ruby Pasupuleti: EFFECTS OF VANADIUM COMPOUNDS ON GENE EXPRESSION DURING BONE FRACTURE HEALING IN THE CHONDROGENIC ATDC5 CELL LINE
39. 4:20-4:30 & 5:10-5:20 Christina Gluch: THE LONG-TERM EFFECTS OF PROLONGED SCREEN USE ON THE EYES AND PREVENTATIVE MEASURES TO MITIGATE THESE EFFECTS
40. 3:40-3:50 & 4:30-4:40 Tatiana Gonzalez and Sulie L. Chang: META-ANALYSIS OF IL-10 IN COVID-19 PATHOLOGIES
41. 3:50-4:00 & 4:40-4:50 Tierney Summer G. and Sulie L. Chang: THE RELATION BETWEEN NICOTINE AND SUSCEPTILITY TO COVID-19
42. 4:00-4:10 & 4:50-5:00Paige Hawco: CANCER IMMUNOTHERAPY: AN EXTENSIVE OVERVIEW OF THE PRESENT ADVANCES AND FUTURE POSSIBILITIES

43. 4:10-4:20 & 5:00-5:10 Angelina Iadarola: THE COLLAPSE OF CORAL REEFS: HOW VARIOUS STRESSORS, CORAL SURVIVABILITY, AND MANAGEMENT EFFECTS CORAL REEF ECOSYSTEMS
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45. 3:40-3:50 & 4:30-4:40 Serina Johnson: THE EFFECTS OF CLIMATE CHANGE ON WILDLIFE CONSERVATION
46. 3:50-4:00 & 4:40-4:50 Michael Kao, Tanvi P. Patel, and Sulie L. Chang: NETWORK META-ANALYSIS OF COVID-19 MODULATION OF PSEN1 LEADING TO ALZHEIMER'S DISEASE
47. 4:00-4:10 & 4:50-5:00 Maha Khan and Sulie L. Chang: ANALYSIS ON TYPE 2 DIABETES MELLITUS AUGMENTATION OF COVID-19 PATHOLOGIES
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51. 3:50-4:00 & 4:40-4:50 Ruben Martinez, Tatiana Rengifo and Sulie L. Chang: ANALYSIS ON HOW COVID-19 AFFECTS PATIENTS WITH VALVULAR REGURGITATION
52. 4:00-4:10 & 4:50-5:00 Celine Mazzella: THE IMPACT OF THE GUT MICROBIOTA ON DEPRESSION
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54. 4:20-4:30 & 5:10-5:20 Xiomara Mejia and Sulie L. Chang: MOLECULAR NETWORKING BETWEEN GUILLAIN-BARRE SYNDROME AND COVID-19
55. 3:40-3:50 & 4:30-4:40 Kevin Mulholland and Dr. Sulie Chang: ANALYSIS OF THE EFFECTS OF ADDERALL ON COVID-19 PATHOLOGY
56. 3:50-4:00 & 4:40-4:50 Steven Musto: CREATINE MONOHYDRATE, THE MOST POPULAR SUPPLEMENT USED BY ATHLETES, INTENDED USE AND EFFECTS

- 57. 4:10-4:20 & 5:00-5:10** Mary Nowak, Sedra Alabed, Suzanne M. Gantar, and Sulie L. Chang: T-LYMPHOCYTE EXHAUSTION IN COVID-19 AND STAGE I-II NON-SMALL CELL LUNG CANCER: A META-ANALYSIS
- 58. 4:10-4:20 & 5:00-5:10** Cassie Perez and Sulie L. Chang: EXAMINING MECHANISM UNDERLYING PERSISTENT COVID-19 PNEUMONIA ENHANCING RISK OF LUNG CANCER
- 59. 4:20-4:30 & 5:10-5:20** Macy Rauch, Alyssa Lee, and Sulie Chang: PATHWAY ANALYSIS OF THE MECHANISMS INVOLVED IN THE SUSCEPTIBILITY OF COVID-19 FOR INDIVIDUALS WHO SMOKE
- 60. 3:40-3:50 & 4:30-4:40** Alexis Reed and Sulie L. Chang: META-ANALYSIS OF COVID-19 IN DEVELOPMENT OF NEURODEGENERATIVE DISEASE
- 61. 3:50-4:00 & 4:40-4:50** Michael N. Romero and Sulie L. Chang: THE COVID-19 CYTOKINE STORM AND THE ASSOCIATION OF THIS CYTOKINE STORM WITH BROAD SPECTRUM ACUTE CORONARY SYNDROMES
- 62. 4:00-4:10 & 4:50-5:00** Samantha Russo: GENOME EDITING AND DE-EXTINCTINCTION: THE APPLICATION OF CRISPR-CAS9 IN CONTEMPORARY SPECIES TO RESTORE EXTINCT GENOMES AND THE ECOLOGICAL IMPLICATIONS
- 63. 4:10-4:20 & 5:00-5:10** Larissa Sagha and Sulie L. Chang: THE ROLE OF SEROTONIN DYSFUNCTION IN COVID-19 AND PARKINSON'S DISEASE
- 64. 4:20-4:30 & 5:10-5:20** Benjamin Saxon and Sulie L. Chang: NETWORK META ANALYSIS OF COVID-19 MODULATION OF ACE2 LEADING TO PARKINSON'S DISEASE
- 65. 3:40-3:50 & 4:30-4:40** Helena Schmittberger, Michael Vigorito, and Sulie L. Chang: META-ANALYSIS OF THE MECHANISMS UNDERLYING NICOTINE MODULATION OF COVID-19 PATHOLOGIES
- 66. 3:50-4:00 & 4:40-4:50** Elizabeth Sottung and Joseph Iannelli: THE IMPLICATIONS OF RHEUMATOID ARTHRITIS AND THE CONNECTIONS TO OTHER MALIGNANCIES
- 67. 4:00-4:10 & 4:50-5:00** Matea Toleska, Alyssa Caradonna, Sedra Alabed, Tanvi P. Patel, and Sulie L. Chang: PATHWAY ANALYSIS OF COVID-19 MODULATION OF ACE2 LEADING TO ALZHEIMER'S DISEASE VIA OVERLAPPING MOLECULES
- 68. 4:10-4:20 & 5:00-5:10** Lauren Treanor and Sulie L. Chang: CHRONIC OPIOID USE MODULATES IMMUNE FUNCTION LEADING TO INCREASED RISK OF SEVERE COVID-19

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